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Developing effective search strategy: when you need to find information, what do you do?

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Developing effective search strategy

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Topics to be covered today

- Search Strategies
- Topic Determination
- Concepts
- Keywords
- Search Techniques
- Evaluating Sources
- English Databases/Resources
- Final words

Search Strategies

- Determine/summerize the topic
- Identify main concepts
- Check for background information
- Develop a list of keywords and phrases
- Search in databases, on the Internet, in library catalogs
- Evaluate resources
- Keep publication/origination information organized

Topic Determination

- The research scope/course/assignment may guide to the choice of a topic
- Topic should be as specific as possible
- A very broad topic may need narrowing
- A very specific topic may need expansion

Topic Determination

For searching-

- Example 1:

- I want information on how **violence on television affects children.**

- Example 2:

- I want to find information on the **Drug abuse that becoming a problem amongst teenagers.**

Concepts

- Concepts are the main ideas of the topic
- The main concepts should be represented in the topic summary
- Concepts make up each unique search topic
- Most topics can be broken down into two or three main concepts
- Note that we may have to rewrite the problem statement – *but don't lose any meaning!!*

Concepts

Violence on television affects children.

Drug abuse is becoming a problem amongst teenagers.

Concepts

Violence on television affects children.

Drug abuse is becoming a problem amongst teenagers.

Concepts

- Combine concepts with AND

Violence television children

Drug abuse teenagers

Concepts

- Combine concepts with AND

Violence AND television AND children

Drug abuse AND teenagers

Background Information

- Encyclopedias, textbooks, dictionaries and periodicals provide background information for our research topic
- These sources help develop a list of keywords to use for searching in databases, library catalogs, indexes and on the Internet

Keywords

- Keywords are the basis of finding information in the electronic environment – they are *discrete*.
- Initially, choose words that represent the concepts directly from the problem statement.
- Choose alternative words for the concepts – known as synonyms. Choosing synonyms is a bigger problem.
- The success of the search depends on the keywords we use and how they are combined
- People have some basic intuitions, but overall using keywords effectively is something that needs to be taught and reinforced.

Keywords

- Combine synonyms with OR

drug abuse AND teenagers

...known as brief search...

drug abuse OR substance abuse AND teenagers OR adolescents

... known as a building block search

More about Concepts

Curriculum integration currently dominates the discussion on information literacy in university settings.

May we critically discuss the idea of curriculum integrated information literacy and whether it should receive so much attention?

More about Concepts

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May we critically discuss the idea of curriculum integrated information literacy and whether it should receive so much attention?

More about Concepts

- *Curriculum integration, information literacy and university* are the obvious choices, but this leaves out a part of the question, i.e. *whether it should receive so much attention*.
- Why does it receive so much attention? This is because curriculum integration supposedly leads to better learning outcomes.
- The search could therefore become *curriculum integration, information literacy and learning outcomes*.

More about Concepts

- The last example shows that we may have to “rewrite”, i.e. reinterpret, the question to determine its real meaning.
- This means that some of our concepts may have to be represented by keywords that are not actually in the problem statement.

Search Techniques

Several techniques for database, catalog and Internet searches include:

- 3M/Boolean techniques
- Truncation
- Phrase Searching

The 3M Search Strategy (Boolean)

MUST	MIGHT	MUST NOT

List what
search
terms you
know **must**
be there

List what
search terms
you think
might be
there

List what
search terms
you know
must not be
there

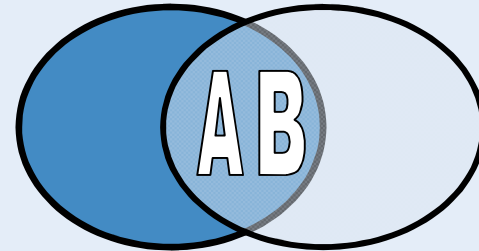
The 3M Search Strategy (Boolean)

MUST	MIGHT	MUST NOT
You will search these terms using AND	You can add these words with OR	You can subtract these terms with NOT

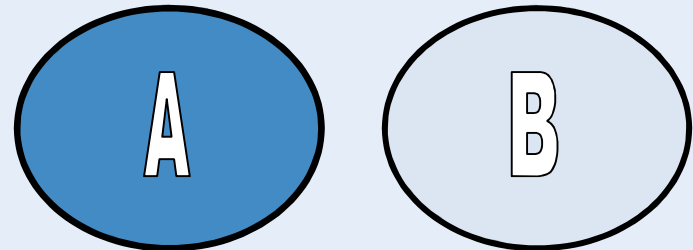
Boolean search techniques work in databases and on the Internet. Use keywords in a variety of ways to refine your search. A and B stand for key words or phrases. The words “AND,” “OR” and “NOT” are called logical operators.

Boolean Search

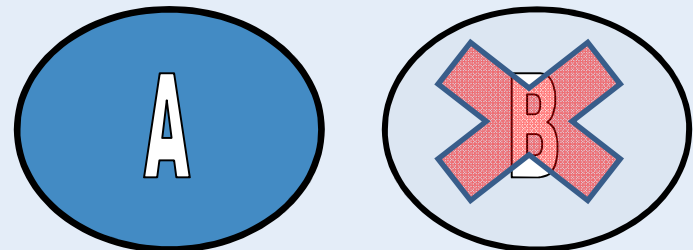
AND: When you use “AND” between two terms, your results will include sources that show the two terms together in a source.



OR: Use “OR” to broaden your search by looking for several terms in a source whether they appear together or not.



NOT: Allows you to reduce the number of results you get from a search. This can be helpful if you want to exclude results related to your topic but not relevant to your thesis.



Truncation

- Use the root of a word to broaden your search responses.
- Using the root Psych* will result in the following:
 - Psychology
 - Psychological
 - Psychologist
 - Psychiatry
 - Psychiatrist

Phrase Searching

- Using quotation marks ("") makes it possible to search for important phrases instead of individual keywords
- Phrase: “Bangladesh Flood”
 - As Keywords: Bangladesh and Flood
- Phrase: “Welfare Reform”
 - As Keywords: Welfare and Reform
- Phrase: “Private University”
 - As Keywords: Private and University

Examples

- Using AND, OR, NOT, with * and ""
 - “Coll*” AND “Welfare Reform” OR poverty NOT welfare
- Some databases or search engines may use symbols in place of the Boolean terms:
 - “Higher Education” + (and) technology - (not) computers

Internet

- The Internet can be useful as a research tool
- The large majority of Internet sites are for commercial purposes and frequently are less valuable as a source of information
- Unlike databases, no authoritative entity reviews and evaluates material on the Internet
- The researcher must carefully evaluate information retrieved from the Web

Internet Search Suggestions

- Try different search engines
- Use a variety of keywords
- Use Boolean techniques, truncation and phrase searching
- Carefully evaluate web sites
- Use the search engine “Help” menu to save time

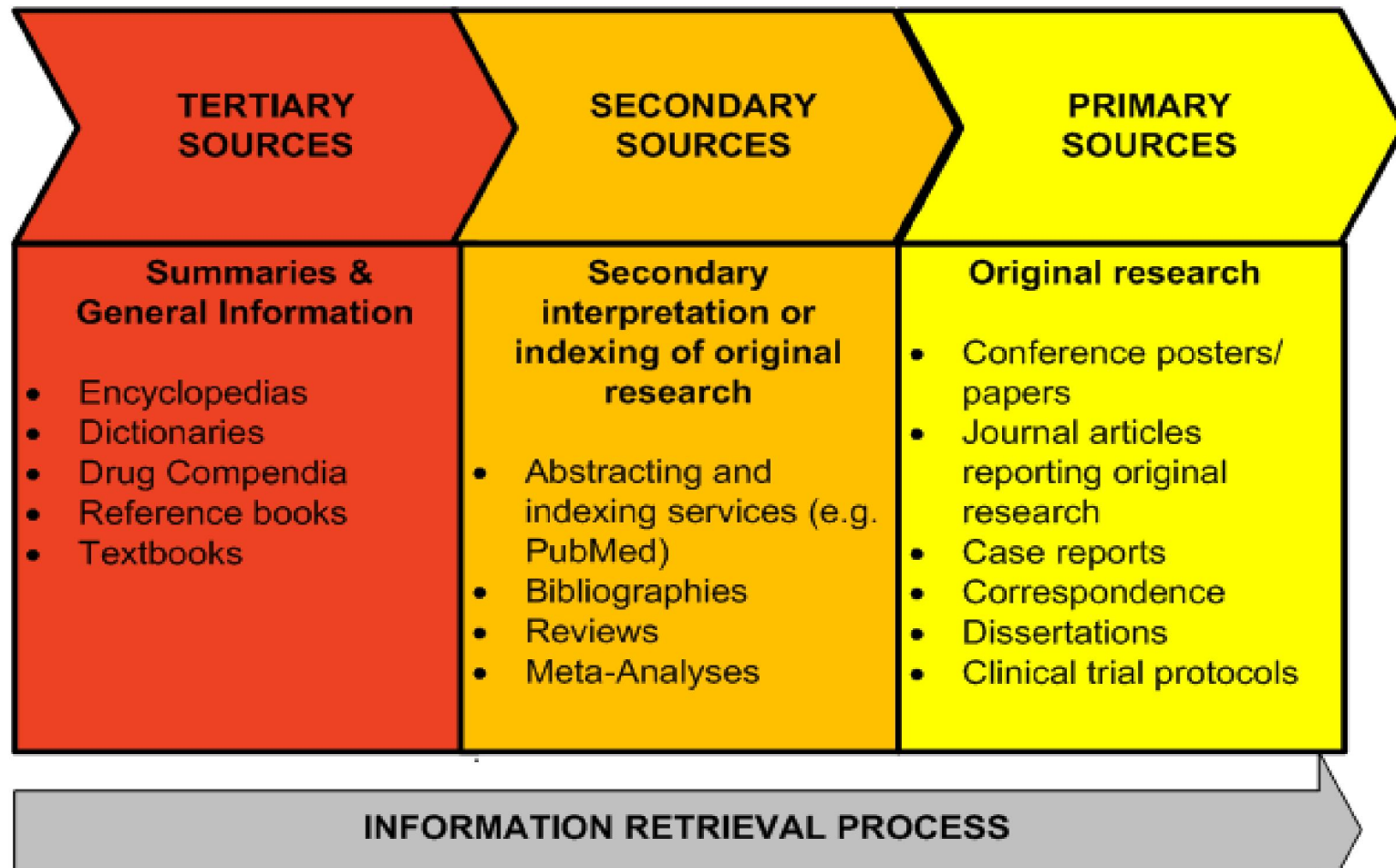
Library Catalog

- Library catalogs allow a user to search for all types of materials
- Available resources include books, periodicals, audio/video resources, databases, web sites and other electronic resources
- Electronic catalog searches help with time management

Types of Sources

Types of Information Sources and Information Retrieval Process

Sources are considered primary, secondary, or tertiary based on the originality of their information and its proximity to the original source. When you are looking for answers you may need to consult several types. No single source is comprehensive



Comparison of Sources

Tertiary Sources

ADVANTAGES	DISADVANTAGES
Easy access	Lag Time
Ease of use	Outdated
Concise	Incomplete information
Relatively inexpensive	

Secondary Sources

ADVANTAGES	DISADVANTAGES
Rapid access to the primary literature	Lag time
Generally high standard journals	Command language varies
Ability to perform complex searches	Proficient search skills are needed
Routine updates on selected topics (alerts)	Can be expensive

Primary Sources

ADVANTAGES	DISADVANTAGES
Original data	Large volume data
Unbiased information	Time consuming

Evaluating Sources

When evaluating any resource, consider:

- Authority
- Accuracy
- Objectivity
- Currency
- Coverage

Evaluating Sources

- Authority
 - Is there an author? Is the page signed?
 - Is the author qualified? An expert?
 - Who is the sponsor?
 - Is the sponsor of the page reputable? How reputable?
 - Is there a link to information about the author or the sponsor?
 - If the page includes neither a signature nor indicates a sponsor, is there any other way to determine its origin?

Evaluating Sources

- Authority

- Rationale

- Anyone can publish anything on the web.
- It is often hard to determine a web page's authorship.
- Even if a page is signed, qualifications are not usually provided.
- Sponsorship is not always indicated.

Evaluating Sources

- Accuracy

- Is the information reliable and error-free?
- Is there an editor or someone who verifies/checks the information?

- Rationale

- Unlike traditional print resources, web resources rarely have editors or fact-checkers.
- Currently, no web standards exist to ensure accuracy.

Evaluating Sources

- Objectivity
 - Does the information show a minimum of bias?
 - Is the page designed to sway opinion?
 - Is there any advertising on the page?
- Rationale
 - Frequently the goals of the sponsors/authors are not clearly stated.
 - Often the Web serves as a virtual “Paltan Maidan”, a soapbox.

Evaluating Sources

- Currency
 - Is the page dated?
 - If so, when was the last update?
 - How current are the links? Have some expired or moved?
- Rationale
 - Publication or revision dates are not always provided.
 - If a date is provided, it may have various meanings. For example,
 - It may indicate when the material was first written
 - It may indicate when the material was first placed on the Web
 - It may indicate when the material was last revised

Evaluating Sources

- Coverage
 - What topics are covered?
 - What does this page offer that is not found elsewhere?
 - How in-depth is the material?
- Rationale
 - Web coverage often differs from print coverage.
 - Frequently, it's difficult to determine the extent of coverage of a topic from a web page. The page may or may not include links to other web pages or print references.
 - Sometimes web information is "just for fun", a hoax, someone's personal expression that may be of interest to no one, or even outright silliness.

Evaluating Sources

Further consideration:

- Audience
 - Too technical or too elementary
- Type of source
 - Primary/secondary/tertiary
- Documentation
 - Bibliography, footnotes, additional links, viewpoints
- Use of language
 - Standard/ colloquial

Language & Literature databases

- EBSCO
<http://search.ebscohost.com/>
- JStor
<http://www.jstor.org/>
- Project MUSE
<http://muse.jhu.edu/browse/literature>
- Oxford Journals
<http://www.oxfordjournals.org/en/>
- De Gruyter
<http://www.degruyter.com/dg/advancedsearchpage>
- Cambridge Journals
journals.cambridge.org

Final Words

- In general, it is better to have more information than too little
- Look for a variety of materials
- Use a variety of keywords
- Look at the works authors use in their resource lists
- Use general and specific databases
- Plan for enough time to return to research in case your approach changes or you need more information

